Vermont Air Quality and Climate Division Mid-Size Wood Fuel Burning Equipment Certifications							
Make	Model	Heat Output (Btu/hr)	Certification Date	Certified Fuels	External Water Storage Required (gal)	Comments	Certification Letter Pages:
Fröling Heizkessel und Behälterbau GmbH	T4-150	483,422	9/30/2019	Wood chips ≤35% moisture	No - 800 gallons recommended	Certified under interim program	2
Fröling Heizkessel und Behälterbau GmbH	T4-150	520,635	9/30/2019	Wood pellets	No- 800 gallons recommended	Certified under interim program	2
Windhager Zentralheizung GmbH	BioWIN632T	204,840	3/12/2025	Wood pellets	No	Certified under interim program	4
Schmid AG Energy Solutions	UTSK-450	1,536,300	8/28/2023	Wood chips ≤35% moisture	1000 gallons		5
Schmid AG Energy Solutions	UTSK-550	1,877,700	8/28/2023	Wood chips ≤35% moisture	1000 gallons		5
Windhager Zentralheizung GmbH	PuroWIN103	351,436	9/25/2023	Wood chips ≤35% moisture	792 gallons		7
Windhager Zentralheizung GmbH	PuroWIN110	375,320	9/25/2023	Wood pellets	792 gallons		9
Heizomat GmbH	RHK-AK400	1,364,800	10/6/2023	Wood chips ≤35% moisture	2730 gallons	ESP and cyclone emission controls	11
Hargassner North America Inc.	Eco-PK 100	337,986	4/15/2024	Wood pellets	No		13
Hargassner North America Inc.	Eco-PK 110	368,712	4/15/2024	Wood pellets	No		15
Hargassner North America Inc.	Eco-PK 120	411,728	4/15/2024	Wood pellets	No		17
Hargassner North America Inc.	Eco-PK 150	508,686	4/15/2024	Wood pellets	No		19
Hargassner North America Inc.	Eco-PK 200	726,772	4/15/2024	Wood pellets	No		21
Hargassner North America Inc.	Eco-PK 330	1,126,620	4/15/2024	Wood pellets	No		23
Hargassner North America Inc.	Eco-HK 100	337,986	8/20/2024	Wood chips ≤35% moisture	No		25
Hargassner North America Inc.	Eco-HK 110	375,540	8/20/2024	Wood chips ≤35% moisture	No		27
Hargassner North America Inc.	Eco-HK 120	409,680	8/20/2024	Wood chips ≤35% moisture	No		29
Hargassner North America Inc.	Eco-HK 150	508,686	8/20/2024	Wood chips ≤35% moisture	No		31
Hargassner North America Inc.	Eco-HK 20034	719,364	8/20/2024	Wood chips ≤35% moisture	No		33
Hargassner North America Inc.	Eco-HK 330	1,126,620	8/20/2024	Wood chips ≤35% moisture	No		35
Updated 3/28/2025							



September 30, 2019

Mr. Werner Emhofer Fröling Heizkessel und Behälterbau GmbH Industriestrasse 12 4710 Grieskirchen, Austria

SUBJECT: Certification of Fröling T4-150 Industrial, Commercial or Institutional Wood Heater under Act 50 of 2019

Dear Mr. Emhofer:

Thank you for providing this office with detailed engineering drawings and specifications for the Fröling T4-150, as required by the Vermont Air Quality & Climate Division (AQCD) *Application for Certification of Industrial, Commercial or Institutional Wood Heater*. We expect that all units designated as the T4-150 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit. We also expect that, in accordance with Act 50 (2019), these units, when burning wood chips, will only be installed in an industrial, commercial, or institutional application. Please let me know immediately if this assumption is not accurate.

The AQCD has completed its review of the information Fröling submitted to this office, including the July 13- August 13, 2013 and January 17, 2014 report of testing (Report # 13-UW/Wels-EX-257/1), conducted according to ÖNORM EN 303-5:2012 and prepared by TUV Austria Services GmbH (TUV), regarding the Model T4-150 wood pellet/chip industrial, commercial or institutional (ICI) wood heater. Please note that while the use of external heat storage is recommended for the T4-150, an external storage unit was not used during the testing and therefore this certification does not require the use of external heat storage for installations in Vermont.

<u>Fuel type – dried wood chips:</u> The particulate matter emissions test results for the T4-150 while using dried wood chips (moisture content <35% on a wet basis) were determined to be equivalent to 0.064 lbs/million BTUs of heat output which complies with Vermont's emission limit of 0.32 lbs/million BTUs of heat output. The Vermont emission limit is the same as the emission limit for residential hydronic heaters and forced air furnaces in 40 CFR Part 60, Subpart QQQQ.

<u>Fuel type – wood pellets</u>: The T4-150 has been certified by the US Environmental Protection Agency for residential use while burning wood pellets at an emission rate of 0.02 lbs/million BTUs of heat output, in accordance with 40 CFR Part 60, Subpart QQQQ, which complies with

(Continued on Back)

Mr. Werner Emhofer Page 2 of 2

Vermont's emission limit of 0.32 lbs/million BTUs of heat output. The Vermont emission limit is the same as the emission limit for residential hydronic heaters and forced air furnaces in that regulation.

Based on the AQCD's review of the information submitted by Fröling and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the Fröling Model T4-150, using either dried wood chips (MC<35%) or wood pellets, complies with the requirements of Act 50 (2019) and that all units with the T4-150 model designation may be distributed or sold for use in Vermont on or after the date of your receipt of this letter. This certification for industrial, commercial, or institutional installation shall expire five (5) years after the date of its issuance or 6 months after amendments to the Air Pollution Control Regulations pursuant to Act 50 are adopted, whichever is sooner. Notification to the AQCD is still required for each installation under this certification.

If you have any questions about this letter, please contact me or Dave Shepard of my staff at (802) 828-1288.

Sincerely,

Hudittal

Heidi Hales, Director Air Quality & Climate Division

HH\ds\2019-09-30 Fröling T4-150 Certification.doc



Vermont Department of Environmental Conservation

Agency of Natural Resources

Air Quality & Climate Division Davis 4 1 National Life Drive Montpelier, VT 05620-3802 802-828-1288

March 12, 2025

Andrew Boutin Pellergy, LLC 2 Granite Street Montpelier, VT 05602

SUBJECT: Windhager BioWIN600 Certification Update: Now BioWIN632T Wood Heater

Dear Andrew Boutin:

On February 21, 2025, the Air Quality & Climate Division (AQCD) received a request to rename the BioWIN600 to BioWIN632T. AQCD has completed its review of the information submitted by Pellergy, LLC, including the engineering report (Report No. EER-7-26-4-Z) and the test report from January to May 2019 (Report No. H-C9 1358-00/19) for the BioWIN632T. The testing was conducted in compliance with DIN EN 303-5:2012-10 and prepared by TÜV SÜD Industrie Service GmbH, Abteilung für Feuerungs- und Wärmetechnik, Prüfabteilung für Wärmetechnik.

The name change reflects design modifications, including a new exterior cladding and color scheme, an integrated internal wood pellet vacuum suction feed (formerly external), a reduced-size integrated pellet hopper, and a relocated flue gas blower. These design modifications do not impact the boiler's thermal performance or mechanical integrity.

Based on the AQCD's review of the information submitted by Pellergy, LLC, the Windhager BioWIN632T wood pellet heater remains certified under its existing BioWIN600 certification. We expect all units designated as BioWIN632T to have the same specifications, within acceptable manufacturing tolerances, and that any components affecting emissions will be composed of the same materials as those in the tested unit. It is understood that the names "BioWIN632T," "BioWIN XL," "BioWIN 600," "BWE 600," and "BWE 600 NA / 60 kW" all refer to the same 60kW boiler.

If you have any questions about this letter, please contact me or Addisan Pound (addisan.pound@vermont.gov or 802-661-8937).

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

HH\ap\2025-03-12 Windhager BioWIN632T



Vermont Department of Environmental Conservation

Air Quality and Climate Division Davis Building, 4th Floor One National Life Drive Montpelier, VT 05620-3802 (802) 828-1288

August 28, 2023

Mr. Mark Froling Froling Energy 20 Manchester Street Keene, NH 03431

SUBJECT: Certification of Schmid AG, UTSK-450 and UTSK-550 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Froling:

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for the Schmid AG Energy Solutions UTSK-450 and UTSK-550 wood heaters. Froling Energy has requested certification of these units in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the Schmid AG, UTSK-450 and UTSK-550 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by All4 LLC on behalf of Froling Energy, including the following:

- February 25 to March 3, 2014 emission test report no. 2214009-1, conducted on the USTK-550 according to EN 303-5:2012 and prepared by TÜV SÜD Landesgesellschaft ÖSterreich GmbH; and
- October 7 2014 drawing check report no. 2214114-1, conducted on the UTSK-450 according to EN 303-5:2012 and prepared by TÜV SÜD Landesgesellschaft ÖSterreich GmbH.

Froling Energy and Schmid AG have indicated that use of 1000 gallons of external water storage is part of the overall system and will be required for all installations of the UTSK-450 and UTSK-550 in Vermont. Information provided in the application states these wood heaters can burn wood chips with a moisture content of up to 35%.

The emissions test results for the UTSK-550 while burning wood chips indicate this unit complies with EN 303-5 Class 5. The UTSK-450 is from a series with the same structural design and has a heat output that is within a 2:1 ratio of the UTSK-550 allowing the emissions test on the UTSK-550 to be used for the UTSK-450 in lieu of a separate emissions test per the requirements of EN 303-5:2012.

(Continued on Back)

Mr. Mark Froling Page 2 of 2

Based on the AQCD's review of the information submitted by All4, LLC and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the Schmid AG UTSK-450 and UTSK-550, using wood chips with a moisture content of \leq 35%, comply with the requirements of APCR §5-205, and that all units with the UTSK-450 or UTSK-550 model designation may hereafter be distributed or sold in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact me or Dave Shepard of my staff at (802) 272-4088.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: John Hinckley, All4 LLC Antti Kylliäinen, Schmid AG Energy Solutions

HH\ds\2023-08-28 Schmid UTSK-450-550 Certification



Vermont Department of Environmental Conservation

Air Quality and Climate Division Davis Building, 4th Floor One National Life Drive Montpelier, VT 05620-3802 (802) 828-1288

September 25, 2023

Mr. Marc Caluwe CALUWE, Inc. 9 Wheatland Street Burlington, MA 01803

SUBJECT: Certification of Windhager PuroWIN103 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Caluwe:

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for the Windhager PuroWIN103 wood heater. CALUWE, Inc. (CALUWE) has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the Windhager PuroWIN103 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by CALUWE, including report No. H-C7 1408-00/18 of testing conducted on the PuroWIN103 between September 2017 and January 2018 according to EN 303-5:2012-10 and prepared by TÜV SÜD Industrie Service GmbH. The emissions test results for the PuroWIN103 indicate this unit fulfills the requirements of EN 303-5 Class 5 while burning wood chips with a moisture content of up to 35%. CALUWE and Windhager have indicated the PuroWIN103 requires the use of a minimum of 792 gallons of external water storage as part of the overall system and will be required for all installations of the PuroWIN103 in Vermont.

Based on the AQCD's review of the information submitted by CALUWE and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the Windhager PuroWIN103, using wood chips with a moisture content of \leq 35%, complies with the requirements of APCR §5-205, and that all units with the PuroWIN103 model designation may hereafter be distributed or sold in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

Mr. Marc Caluwe Page 2 of 2

If you have any questions about this letter, please contact me or Dave Shepard of my staff at (802) 272-4088.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

HH\ds\2023-09-25 Windhager PuroWIN103 Certification

Agency of Natural Resources



Vermont Department of Environmental Conservation

Air Quality and Climate Division Davis Building, 4th Floor One National Life Drive Montpelier, VT 05620-3802 (802) 828-1288

September 25, 2023

Mr. Marc Caluwe CALUWE, Inc. 9 Wheatland Street Burlington, MA 01803

SUBJECT: Certification of Windhager PuroWIN110 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Caluwe:

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for the Windhager PuroWIN110 wood heater. CALUWE, Inc. (CALUWE) has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the Windhager PuroWIN110 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by CALUWE, including report No. H-C4 1408-00/18 of testing conducted on the PuroWIN110 between September 2017 and January 2018 according to EN 303-5:2012-10 and prepared by TÜV SÜD Industrie Service GmbH. The emissions test results for the PuroWIN110 indicate this unit fulfills the requirements of EN 303-5 Class 5 while burning wood pellets. CALUWE and Windhager have indicated the PuroWIN110 requires the use of a minimum of 792 gallons of external water storage as part of the overall system and will be required for all installations of the PuroWIN110 in Vermont.

Based on the AQCD's review of the information submitted by CALUWE and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the Windhager PuroWIN110, using wood pellets, complies with the requirements of APCR §5-205, and that all units with the PuroWIN110 model designation may hereafter be distributed or sold in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

Mr. Marc Caluwe Page 2 of 2

If you have any questions about this letter, please contact me or Dave Shepard of my staff at (802) 272-4088.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

HH\ds\2023-09-25 Windhager PuroWIN110 Certification



Vermont Department of Environmental Conservation

Air Quality and Climate Division Davis Building, 4th Floor One National Life Drive Montpelier, VT 05620-3802 (802) 828-1288

October 6, 2023

Mr. Marc Caluwe CALUWE, Inc. 9 Wheatland Street Burlington, MA 01803

SUBJECT: Certification of Heizomat RHK-AK400 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Caluwe:

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for the Heizomat RHK-AK400 wood heater. CALUWE, Inc. (CALUWE) has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the Heizomat RHK-AK400 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by CALUWE, including the following:

- Report No. H-C26 1387-01/22 of testing conducted on a Heizomat RHK-AK400 PZ between March and December 2022 according to EN 303-5:2021-09 and prepared by TÜV SÜD Industrie Service GmbH.
- Report No. H-C6 1144-00/13 of testing conducted on a Heizomat RHK-AK500 Z between April and June 2013 according to EN 303-5:2012-10 and prepared by TÜV SÜD Industrie Service GmbH.

The emissions test results for the RHK-AK400 PZ with electrostatic precipitator (ESP) and cyclone emission controls indicate this unit fulfills the requirements of EN 303-5 Class 5 while burning wood chips. The emissions test results for the RHK-AK500 Z with cyclone emission control indicate this unit fulfills the requirements of EN 303-5 Class 5 while burning wood chips with a moisture content of up to 35%. The RHK-AK500 is from a series with the same structural design and has a heat output that is within a 2:1 ratio of the RHK-AK400 allowing the results of the emissions test on the RHK-AK500 to be applied to the RHK-AK400 per the requirements of EN 303-5:2012. CALUWE has indicated installations of the RHK-AK400 in Vermont will include seven ESPs and a cyclone. Furthermore, the RHK-AK400 requires the use of a minimum of 2730 gallons of external water storage as part of the overall system and will be required for all installations of the RHK-AK400 in Vermont.

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Mr. Marc Caluwe – Certification of Heizomat RHK-AK400 Page 2 of 2

Based on the AQCD's review of the information submitted by CALUWE and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the Heizomat RHK-AK400, using wood chips with a moisture content of \leq 35%, complies with the requirements of APCR §5-205, and that all units with the RHK-AK400 model designation may hereafter be distributed or sold in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact me or Dave Shepard of my staff at (802) 272-4088.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

HH\ds\2023-10-06 Heizomat RHK-AK400 Certification



April 22, 2024

(802) 828-1288

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America, Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-HK 100 (model ECO-PK) Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp;

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for ECO-HK 100 (model ECO-PK) wood heater. Hargassner North America Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-HK 100 (model ECO-PK) will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America, Inc. including the following:

- January 7, 2021 HBLFA Francisco Josephinum BLT Wieselburg Confirmation report (reference number 0273/21);
- ECO-PK 70-120 Pellet Boiler Installation Manual; and
- ECO-PK 70-120 Pellet Boiler Operation Manual.

The emissions test results for the ECO-HK 60 (model ECO-PK) while burning wood pellets indicate this unit complies with EN 303-5 Class 5. The ECO-HK 100 (model ECO-PK) is from a series with the same structural design and has a heat output that is within a 2:1 ratio of the ECO-HK 60 (model ECO-PK) allowing the emissions test on the ECO-HK 60 (model ECO-PK) to be used for the ECO-HK 100 (model ECO-PK) in lieu of a separate emissions test per the requirements of EN 303-5:2012.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-HK 100 (model ECO-PK), using wood pellets complies with the

(Continued on Back)

requirements of APCR §5-205, and that all units with the ECO-HK 100 (model ECO-PK) model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\jw\2024-04-15 Hargassner ECO-HK 100 Certification



April 22, 2024

(802) 828-1288

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-HK 110 (model ECO-PK) Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp;

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for ECO-HK 110 (model ECO-PK) wood heater. Hargassner North America, Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-HK 110 (model ECO-PK) will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America, Inc. including the following:

- January 7, 2021 HBLFA Francisco Josephinum BLT Wieselburg Confirmation report (reference number 0273/21);
- ECO-PK 70-120 Pellet Boiler Installation Manual; and
- ECO-PK 70-120 Pellet Boiler Operation Manual.

The emissions test results for the ECO-HK 60 (model ECO-PK) while burning wood pellets indicate this unit complies with EN 303-5 Cass 5. The ECO-HK 110 (model ECO-PK) is from a series with the same structural design and has a heat output that is within a 2:1 ratio of the ECO-HK 60 (model ECO-PK) allowing the emissions test on the ECO-HK 60 (model ECO-PK) to be used for the ECO-HK 110 (model ECO-PK) in lieu of a separate emissions test per the requirements of EN 303-5:2012.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-HK 110 (model ECO-PK), using wood pellets complies with the

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requirements of APCR §5-205, and that all units with the ECO-HK 110 (model ECO-PK) model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\jw\2024-04-15 Hargassner ECO-HK 110 Certification



April 22, 2024

(802) 828-1288

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-HK 120 (model ECO-PK) Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp;

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for ECO-HK 120 (model ECO-PK) wood heater. Hargassner North America, Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-HK 120 (model ECO-PK) will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America Inc. including the following:

- April/ May 2014 HBLFA Francisco Josephinum BLT Wieselburg Test Report (BLT reference number 122/13);
- ECO-PK 70-120 Pellet Boiler Installation Manual;
- ECO-PK 70-120 Pellet Boiler Operation Manual; and
- April 24, 2020 Environmental Protection Agency ECO-HK 120 Hydronic Heater Certification Letter Number 27HH-20.

The emissions test results for the ECO-HK 120 (model ECO-PK) while burning wood pellets indicate this unit complies with EN 303-5 Cass 5.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-HK 120 (model ECO-PK), using wood pellets complies with the requirements of APCR §5-205, and that all units with the ECO-HK 120 (model ECO-PK) model designation may hereafter be distributed, sold or installed in Vermont. No external water storage

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is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\jw\2024-04-15 Hargassner ECO-HK 120 Certification



April 22, 2024

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America, Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-PK 150 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp;

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for ECO-PK 150 wood heater. Hargassner North America Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-PK 150 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America, Inc. including the following:

- December 21, 2015, TÜV Austria Services GmbH drawing check of the boiler type ECO-PK 150.1 (reference number 15-U-384-1/SD 15-UW/Wels-EX-278);
- ECO-PK 150-200 Pellet Boiler Installation Manual; and
- ECO-PK 150-200 Pellet Boiler Operation Manual.

The emissions test results for the ECO-PK 120 and ECO-PK 200.1 while burning wood pellets indicate this unit complies with EN 303-5 Class 5. The ECO-PK 150 is from a series with the same structural design and has a heat output that is within a 2:1 ratio of the ECO-PK 120 and ECO-PK 200.1 allowing the emissions tests on the ECO-PK 120 and ECO-PK 200.1 to be used for the ECO-PK 150 in lieu of a separate emissions test per the requirements of EN 303-5:2012.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-PK 150, using wood pellets, complies with the requirements of APCR §5-205, and that all units with the ECO-PK 150 model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in

Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\jw\2024-04-15 Hargassner ECO-PK 150 Certification



April 22, 2024

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-PK 200 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp;

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for the ECO-PK 200 wood heater. Hargassner North America, Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-PK 200 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America Inc. including the following:

- June 6 to October 30, 2015, TÜV Austria Services GmbH type test of the heating boiler type ECO-PK 200.1 (reference number 15-UW/Wels-EX-278/1);
- ECO-PK 150-200 Pellet Boiler Installation Manual; and
- ECO-PK 150-200 Pellet Boiler Operation Manual.

The emissions test results for the ECO-PK 200.1 while burning wood pellets indicate this unit complies with EN 303-5 Class 5.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-PK 200, using wood pellets, complies with the requirements of APCR §5-205, and that all units with the ECO-PK 200 model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

(Continued on Back)

If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely, Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\jw\2024-04-15 Hargassner ECO-PK 200 Certification



April 22, 2024

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-PK 330 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp;

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for the ECO-PK 330 wood heater. Hargassner North America, Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-PK 330 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America Inc. including the following:

- December 9, 2016 to June 14, 2017 TÜV Austria Services GmbH type test of the heating boiler type ECO-HK 330.1 (reference number 16-EAT-UW-WL-EX-329);
- July 7, 2015 to February 21, 2020 TÜV Austria Services GmbH confirmation of compliance with the requirements of EN 303-5:2012 boiler type ECO-PK 330 (reference number 19-IN-AT-UW-OÖ-EX-326/2)
- ECO-PK 250-330 Pellet Boiler Installation Manual; and
- ECO-PK 250-330 Pellet Boiler Operation Manual.

The emissions test results for the ECO-HK 330.1 while burning wood pellets indicate this unit complies with EN 303-5 Class 5.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-PK 330, using wood pellets, complies with the requirements of APCR §5-205, and that all units with the ECO-PK 330 model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in

(Continued on Back)

Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\jw\2024-04-15 Hargassner ECO-PK 330 Certification



August 20, 2024

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-HK 100 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp:

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for ECO-HK 100 wood heater. Hargassner North America, Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-HK 100 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America, Inc. including the following:

- July 1, 2021 HBLFA Francisco Josephinum BLT Wieselburg Confirmation report (reference number 0275/21);
- ECO-HK 70-120 Wood Chip Boiler Installation Manual; and
- ECO-HK 70-120 Wood Chip Boiler Operation Manual.

The emissions test results for the ECO-HK 60 and the ECO-HK 120, while burning wood chips wood chips with a moisture content of up to 35%, indicate this unit complies with EN 303-5 Class 5. The ECO-HK 100 is from a series with the same structural design and has a heat output that is within a 2:1 ratio of the ECO-HK 60 and the ECO-HK 120 allowing the emissions tests on the ECO-HK 60 and ECO-HK 120 to be used for the ECO-HK 110 in lieu of a separate emissions test per the requirements of EN 303-5:2012.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-HK 100, combusting wood chips with a moisture content \leq 35%, complies with the requirements of APCR §5-205, and that all units with the ECO-HK 100

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model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\ds\2024-08-20 Hargassner ECO-HK 100 Certification



August 20, 2024

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-HK 110 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp:

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for ECO-HK 110 wood heater. Hargassner North America, Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-HK 110 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America, Inc. including the following:

- July 1, 2021 HBLFA Francisco Josephinum BLT Wieselburg Confirmation report (reference number 0275/21);
- ECO-HK 70-120 Wood Chip Boiler Installation Manual; and
- ECO-HK 70-120 Wood Chip Boiler Operation Manual.

The emissions test results for the ECO-HK 60 and the ECO-HK 120, while burning wood chips wood chips with a moisture content of up to 35%, indicate this unit complies with EN 303-5 Class 5. The ECO-HK 110 is from a series with the same structural design and has a heat output that is within a 2:1 ratio of the ECO-HK 60 and the ECO-HK 120 allowing the emissions tests on the ECO-HK 60 and ECO-HK 120 to be used for the ECO-HK 110 in lieu of a separate emissions test per the requirements of EN 303-5:2012.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-HK 110, combusting wood chips with a moisture content \leq 35%, complies with the requirements of APCR §5-205, and that all units with the ECO-HK 110

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model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\ds\2024-08-20 Hargassner ECO-HK 110 Certification



August 20, 2024

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-HK 120 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp;

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for ECO-HK 120 wood heater. Hargassner North America, Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-HK 120 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America Inc. including the following:

- April/ May 2014 HBLFA Francisco Josephinum BLT Wieselburg Test Report (BLT reference number 120/13);
- ECO-HK 70-120 Wood Chip Boiler Installation Manual; and
- ECO-HK 70-120 Wood Chip Boiler Operation Manual.

The emissions test results for the ECO-HK 120, while burning wood chips with a moisture content of up to 35%, indicate this unit complies with EN 303-5 Class 5.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-HK 120, combusting wood chips with a moisture content \leq 35%, complies with the requirements of APCR §5-205, and that all units with the ECO-HK 120 model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

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If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\ds\2024-08-20 Hargassner ECO-HK 120 Certification



August 20, 2024

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America, Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-HK 150 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp:

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for ECO-HK 150 wood heater. Hargassner North America Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-HK 150 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America, Inc. including the following:

- December 21, 2015, TÜV Austria Services GmbH drawing check of the boiler type ECO-HK 150.1 (reference number 15-U-384-1/SD 15-UW/Wels-EX-278);
- ECO-HK 150-200 Wood Chip Boiler Installation Manual; and
- ECO-HK 150-200 Wood Chip Boiler Operation Manual.

The emissions test results for the ECO-HK 90, ECO-HK 120 and ECO-HK 200.1, while burning wood chips, indicate this unit complies with EN 303-5 Class 5. The ECO-HK 150 is from a series with the same structural design and has a heat output that is within a 2:1 ratio of the ECO-HK 90, ECO-HK 120 and ECO-HK 200.1 allowing the emissions tests on the ECO-HK 90, ECO-HK 120 and ECO-HK 200.1 to be used for the ECO-HK 150 in lieu of a separate emissions test per the requirements of EN 303-5:2012.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-HK 150, combusting wood chips with a moisture content \leq 35%, complies with the requirements of APCR §5-205, and that all units with the ECO-HK 150 model

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designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\ds\2024-08-20 Hargassner ECO-HK 150 Certification



August 20, 2024

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-HK 200 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp:

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for the ECO-HK 200 wood heater. Hargassner North America, Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR). We expect that all units designated as the ECO-HK 200 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America Inc. including the following:

- July 6 to October 30, 2015, TÜV Austria Services GmbH type test of the heating boiler type ECO-HK 200.1 (reference number 15-UW/Wels-EX-278/1);
- ECO-HK 150-200 Wood Chip Boiler Installation Manual; and
- ECO-HK 150-200 Wood Chip Operation Manual.

The emissions test results for the ECO-HK 200.1, while burning wood chips with a moisture content of up to 35%, indicate this unit complies with EN 303-5 Class 5.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-HK 200, combusting wood chips with a moisture content \leq 35%, complies with the requirements of APCR §5-205, and that all units with the ECO-HK 200 model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

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If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely, Huidi Hulus

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\ds\2024-08-20 Hargassner ECO-HK 200 Certification



August 20, 2024

Mr. Stefan Kopp, M.A. Chief Executive Officer Hargassner North America Inc. 2100 -181 University Avenue Toronto, Ontario, M5H 3M7

SUBJECT: Certification of Hargassner ECO-HK 330 Mid-Size Wood Fuel Burning Equipment in Accordance with §5-205 of the Air Pollution Control Regulations

Dear Mr. Kopp:

Thank you for providing the Air Quality & Climate Division (AQCD) with an *Application for Certification of Mid-Size Wood Fuel Burning Equipment* for the ECO-HK 330 wood heater. Hargassner North America, Inc. has requested certification of this unit in accordance with §5-205(e)(1) of the Air Pollution Control Regulations (APCR) when burning wood chips. We expect that all units designated as the ECO-HK 330 will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials, as those in the tested unit.

The AQCD has completed its review of the information submitted to this office by Hargassner North America Inc. including the following:

- December 9, 2016 to June 14, 2017 TÜV Austria Services GmbH type test of the heating boiler type ECO-HK 330.1 (reference number 16-EAT-UW-WL-EX-329);
- ECO-HK 250-330 Wood Chip Boiler Installation Manual; and
- ECO-HK 250-330 Wood Chip Boiler Operation Manual.

The emissions test results for the ECO-HK 330.1, while burning wood chips with a moisture content of up to 35%, indicate this unit complies with EN 303-5 Class 5.

Based on the AQCD's review of the information submitted by Hargassner North America, Inc. and the conditions noted above concerning fuels, specifications, and materials, the AQCD is hereby certifying that the ECO-HK 330, combusting wood chips with a moisture content \leq 35%, complies with the requirements of APCR §5-205, and that all units with the ECO-HK 330 model designation may hereafter be distributed, sold or installed in Vermont. No external water storage is required for installation in Vermont. Completion of the Notice to Buyer Form is still required for each installation under this certification.

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If you have any questions about this letter, please contact John Wakefield of my staff at (802) 279-5674.

Sincerely,

Huidi Hales

Heidi Hales, Director Air Quality & Climate Division

ec: Morton Bailey, Lyme Green Heat

HH\ds\2024-08-20 Hargassner ECO-HK 330 Certification